

BERTOA MODEL

BADAN KEBAJIKAN ISLAM KUMPULAN PRASARANA
(BAKIP)

WHAT IS BAKIP?

BAKIP (Badan Kebajikan Islam Kumpulan Prasarana) is a welfare and religious club for Muslim staff within the PRASARANA Group. Its primary goals are promoting religious and welfare activities, managing welfare-related benefits and activities and strengthen staff relationships through community-driven initiatives .

WHAT IS BERTOA?

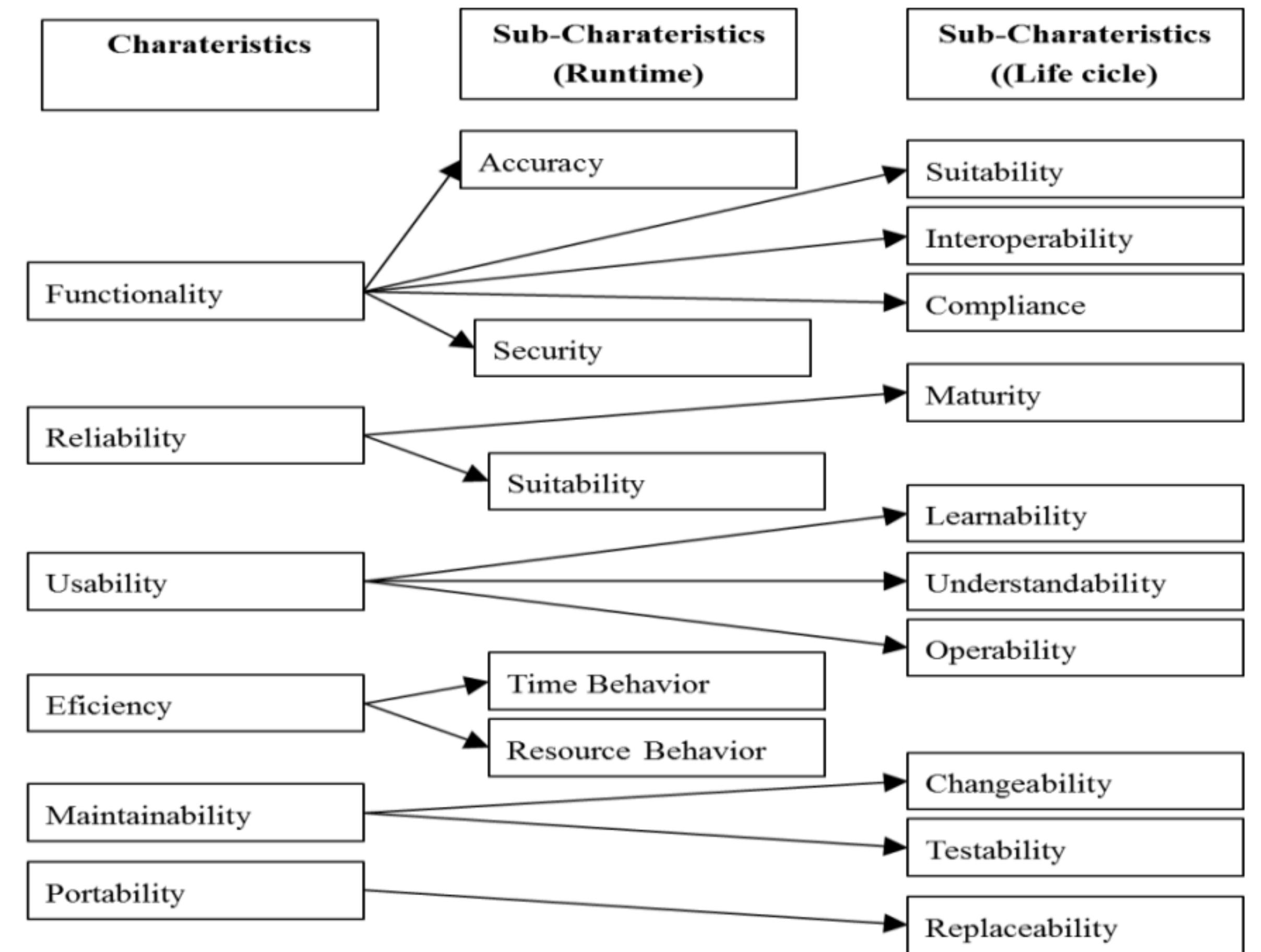
BERTOA (Business-Enabled Repository of Tested Open-source Architectures) is an EU project that enhances CBSE by providing standard metrics and methodologies to evaluate open-source components' quality. It emphasizes structured reuse, quality assurance, and component certification using models like ISO 9126.

BERTOA'S QUALITY ATTRIBUTES

BERTOA leverages the ISO 9126 standard to define measurable quality attributes:

- Functionality
- Reliability
- Usability
- Efficiency
- Maintainability





QUALITY ATTRIBUTES: FUNCTIONALITY



Functionality refers to the set of attributes that relate to the presence of functions that meet stated and implied needs when the software is used under specified conditions.

Functionality in BAKIP

- Suitability: Covers all key processes (register, claim, report, activity).
- Accuracy: <1% error tolerance on output data.
- Interoperability: Linked to HR & SMS systems.
- Security: Access control for sensitive data.
- Compliance: Follows Prasarana's internal data and regulatory standards.

QUALITY ATTRIBUTES

RELIABILITY

- Evaluates the system's ability to consistently perform intended functions without failure
- In BAKIP, Reliability critical components:
 - Claim submission system
 - Login module
- Must remain stable during regular use
- Should recover gracefully from errors (e.g., failed submissions, network disruptions)
- COTS components must be:
 - Mature and well-tested in diverse environments
 - Equipped with built-in error handling and fallback mechanisms

MAINTAINABILITY

- Assesses how easily the system and components can be:
 - Modified
 - Updated
 - Tested
- In BAKIP, maintainability allows:
 - Admins/developers to update forms and workflows easily
 - Smooth plugin adjustments with minimal effort
- COTS components should provide:
 - Clear documentation
 - Modular design
 - Exposed configuration options
- Supports quick integration and updates without deep internal access

QUALITY ATTRIBUTES

USABILITY

measures how intuitive and user-friendly the system and its components are. **BAKIP's forms should be easy to complete. Admins should be able to update events or announcements with minimal effort.** Additionally, documentation for any reusable or third-party component should be accessible and simple for developers and admins

EFFICIENCY

evaluates how well the system performs under regular and peak load. **In BAKIP, this means the claim form should submit in seconds, even when multiple users are online.** Reporting tools must handle large data sets quickly. COTS components like notification services or reporting plugins must process data with minimal delay

SUMMARY

Functionality

Must allow accurate and complete registration, claims processing, activity creation, and report generation for admin users

Reliability

System must avoid crashes and ensure all submitted data is properly saved and acknowledged

Maintainability

Code must be modular and well-documented to allow future upgrades (e.g., adding new benefits)

Usability

System must have a clean, simple interface with tooltips and form validations; minimal training required

Efficiency

All key tasks (registration, claim updates, reporting) should process and respond within a short time

IS BERTOA MODEL FITS?

BERTOA MODEL

The system uses third-party/COTS components

Bertoa is designed to evaluate external components

The system has modular architecture

Even custom code can be treated as components

The system already exists or is being reused

Bertoa is often used to evaluate components during selection or integration

The system is built with component reusability in mind

Bertoa supports evaluating encapsulation, configurability, reusability, etc

THANK YOU

FOR LENDING YOUR EARS DURING THE
PRESENTATION